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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,491	04/07/2005	Martin Hellsten	PST6366P1US/2187	9838
27624	7590	01/08/2010		
AKZO NOBEL INC. LEGAL & IP 120 WHITE PLAINS ROAD, SUITE 300 TARRYTOWN, NY 10591			EXAMINER METZMAIER, DANIEL S	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			01/08/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPANLPATENT@AKZONOBEL.COM

### Office Action Summary

**Application No.**

10/520,491

**Applicant(s)**

HELLSTEN ET AL.

**Examiner**

Daniel S. Metzmaier

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 and 8-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Claims 1-5 and 8-21 are pending.

#### ***Claim interpretation***

1. The claims consist of independent claims 1 directed to compositions, independent claim 8 directed to an aqueous composition comprising drag reducing agents, and independent claim 11 directed to methods of drag reduction comprising the mere addition of a drag reducing composition to an aqueous composition.

Each of the independent claims has varying scopes of the concentrations and/or the electrolyte content. The intended use of claim 8 has been given little or no patentable weight. See MPEP § 2111.02(II).

Reference is made to the citation to the USGS, "EXPLANATION OF HARDNESS", wherein it is clear that moderately hard water, hard water and very hard water have electrolytes of 100 ppm or greater calculated as  $\text{CaCO}_3$ .

Other names for lauryl sulfate or lauryl sulfonate are dodecyl sulfate or dodecyl sulfonate, respectively.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-5 and 8-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hellsten et al, US 5,902,784.

Hellsten et al (column 2, lines 28 et seq) discloses drag reducing agents comprising the combination of anionic sulfates and sulfonates with betaine surfactants having the structure set forth as formula (I), wherein R is the group  $R'NC_3H_6-$  and R' (column 3, lines 6-19) is set forth as an acyl group having 14-16 carbon atoms for use in cooling media at 30° C or below and an acyl group having 18 carbon atoms or more, preferably 18-22 and 1 or 2 double bonds for heat-transfer medium at temperatures in the range of 50-120° C.

Hellsten et al (abstract; column 2, line 52; and claims) discloses the ratio of the betaines to the anionic surfactants at 20:1 to 1:2, preferably 10:1 to 1:1. Said ratios clearly and substantially overlap the claimed concentrations of (a) and (c).

To the extent the Hellsten et al reference differs from the claims as not clearly envisaged or disclosed with sufficient specificity, it would have been obvious to one of ordinary skill in the art at the time of applicants' invention to employ the betaine and/or mixed betaine surfactants with anionic surfactants for their advantageous use as drag reducing agents taught in the Hellsten et al reference. The variation of the optimal concentrations is clearly obvious and within the level of one having ordinary skill in the art at the time of applicants' invention for the advantage of reducing drag taught in the Hellsten et al reference.

To the extent the Hellsten et al reference differs from the claims in the combination of betaines having a C<sub>14-16</sub> acyl group with betaines having a C<sub>18-22</sub> acyl group, it would have been obvious to one of ordinary skill in the art at the time of applicants' invention to employ mixed betaines and anionic surfactant combination for their advantageous use as drag reducing agents taught in the Hellsten et al reference having a broad temperature application. The variation of the optimal concentrations for their taught temperature application is obvious and within the level of one having ordinary skill in the art at the time of applicants' invention for the advantage of reducing drag taught in the Hellsten et al reference at particular temperature applications.

***Response to Arguments***

5. Applicant's arguments filed 10 September 2009 have been fully considered but they are not persuasive.
6. Initially, applicants' remarks that are directed to the examiner's response to the applicants' remarks in the 13 April 2009 response are characterized and/or taken out of context regarding the remarks in the 13 April 2009 response. The Examiner's remarks are best read in view of applicants' remarks specifically referred to in the Office Action of 24 June 2009 regarding applicants' remarks in the 13 April 2009 response.
7. Applicants (page 8) assert the Hellsten et al reference, example 7, employs 7.7 % (w/w) C16 acid containing betaines, at least C18-22 acid containing betaines, and the example 7 anionic surfactants are not those claimed. Applicants further assert Hellsten et al (example 7) is performed in deionized water.

This has not been deemed persuasive for the following reasons:

(1) Applicants' arguments appear to be directed to how example 7 is distinguished based on anticipation from the claims rather than the teachings of the reference as a whole and the obviousness of the claimed invention in view of the Hellsten et al reference.

(2) The claims consist of independent claims 1 directed to compositions, independent claim 8 directed to an aqueous composition comprising drag reducing agents, and independent claim 11 directed to methods of drag reduction comprising the mere addition of a drag reducing composition to an aqueous composition.

Each of the independent claims has varying scope of the concentrations and/or the electrolyte content.

Claim 1 requires NO electrolyte.

Claim 8 does not require component (b), *i.e.*, (b) = 0 (zero) % (w/w) or alternatively put, (b) is optional. Specific attention is directed to claim 17 dependent on claim 8 and includes the limitation that (b) is 0-70 % by weight.

A comparison of the electrolyte limitation of claim 8 and claim 11 clearly shows that claim 11 reads on the anionic surfactants as electrolyte since it does not include the language of claim 8. Applicants' arguments regarding Hellsten et al, example 7, are not directed to a single claim.

(3) All disclosures in a reference must be considered for what it fairly teaches those of ordinary skill in the art, not just preferred embodiments or specific working examples. *In re Boe*, 355 F.2d 961, 148 USPQ 507, (CCPA, 1966). *In re Chapman*, 357 F.2d 418, 148 USPQ 711, (CCPA, 1966). *In re Mills*, 470 F.2d 649, 176 USPQ 196, (CCPA, 1972). Hellsten et al (example 7) clearly contemplates the combination and/or mixtures of the amidobetaines formed from both acyl groups of C<sub>14-16</sub> acids with acyl groups of C<sub>18-22</sub> acids. Hellsten et al (column 3, lines 6-19) teaches and/or at least suggest the full ratio and motivation for the use thereof for the relative shorter chain and relatively longer chain acylamido betaines based of temperature considerations.

Furthermore, see MPEP § 2145: "If a *prima facie* case of obviousness is established, the burden shifts to the applicant to come forward with arguments and/or evidence to rebut the *prima facie* case. See, e.g., *In re Dillon*, 919 F.2d 688, 692,

16 USPQ2d 1897, 1901 (Fed. Cir. 1990).” A *prima facie* case of obviousness has been established herein above.

8. Applicants (page 8) assert “other components” referred to by the examiner in point 10 is unclear. Applicants’ arguments referenced therein (point 10, paragraph 10 Office Action 24 June 2009, specifically regarding pages 13 and 14 of applicants’ remarks in the 13 April 2009 response) were directed to the genus/species relationship of the species of C<sub>12-16</sub> acylamido betaines are within the genus disclosed in Hellsten et al of C<sub>10-24</sub> acylamido betaines. The “other components” referred to by the examiner refers to the remaining acyl groups of the C<sub>10-24</sub> acylamido betaines that are not the C<sub>12-16</sub> or C<sub>18-22</sub> claimed.

Furthermore, Hellsten et al (column 2, lines 28 et seq; and column 3, lines 52-63) clearly contemplates alkyl sulfates and alkyl sulfonates, which applicants claims clearly read. These are alternatives to the alkylbenzylsulfonate of example 7.

9. Applicants (page 9, points 11 and 12) appear to assert unexpected results based on the specification but fail to specifically point out any comparative data nor was any comparative data found by the examiner to support a finding of unexpected results.

Applicants’ assertions that the use of the claimed combination provides drag reduction over a different temperature range has not been probative since the fatty acid length was known to have an effect on the efficacy of the materials as drag reducing agents at different temperatures. While the claimed subject matter is deemed to be novel, it is NOT deemed to be unobvious since the prior art teaches the relationship



between the acyl carbon number and the temperature of efficacy of the drag reducing agents.

Applicants further argue synergy between the components but have failed to recognize and/or mention any synergy prior to attorney's remarks.

10. Applicants (pages 9 and 10) assert unexpected results. This is not deemed persuasive for the above reasons. Furthermore, Applicants are directed to MPEP § 716, particularly 716.02.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ullmann's Encyclopedia of Industrial Chemistry list acyl proportions of common oils by carbon number and degree of unsaturation.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David W. Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Daniel S. Metzmaier/  
Primary Examiner, Art Unit 1796**

DSM